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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/702,288	10/30/2000	Wen-Yin Liu	MS1-605US	1430

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EXAMINER

TO, BAOQUOC N

ART UNIT	PAPER NUMBER
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2172

DATE MAILED: 04/24/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/702,288

Applicant(s)

LIU ET AL.

Examiner

Baoquoc N To

Art Unit

2172

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

**DETAILED ACTION**

1. Claims 43-44 is canceled and claim 1 is amended on amendment filed on 02/05/03. Claims 1-42 are pending in this application.

***Response to Arguments***

2. Applicant's arguments with respect to claims 1, 10, 18, 25 and 32 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 6-11, 13-17 and 32-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morag (US. Patent No. 6,324,545) in view of Tada et al. (US. Patent No. 5,572,728).

Regarding on claims 1 and 9, Morag teaches a method comprising:

monitoring feedback from the user as to which of the first and second multimedia objects are relevant to the search query (col. 6, lines 53-55); and annotating one or more of the multimedia objects, which are deemed relevant by the user, with keyword (col. 9, lines 35-40).

Morag teaches downloading the acquired images to a personal computer and with software for manipulating the acquired images (col. 5, lines 57-59). Morag does not explicitly teach identifying, in response to a search query, first multimedia objects having an associated keyword that matches a keyword in the search query and second multimedia objects that have content features similar to those of the first multimedia objects; and presenting the first and second multimedia objects to a user. However, Tada teaches, "images retrieved by a retrieval keyword are displayed in the form of a rectangular parallelepiped for each relevant item" (col. 10, lines 9-11). In addition, Tada

Art Unit: 2172

also teaches, "the image volume 22 corresponding to the retrieval keyword, and is generated by collecting related image" (col. 11, lines 21-23). This teaches the second set of images is collected. Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to combine the teaching of Morag and Tada because retrieving the images by the keyword and also at the same time retrieving the related images would allow the search to be more thoughtful.

Regarding on claim 6, Morag teaches training how the first and second multimedia objects are identified based on the user's feedback (col. 9, lines 35-40).

Regarding on claim 7, Tada teaches refining the search to identify additional multimedia objects that contain content features similar to those of the multimedia objects indicated by the user as being relevant.

Regarding on claim 8, Morag teaches the multimedia objects comprise one of digital images, video objects, and audio objects (col. 5, line 50).

Regarding on claims 10 and 17, Morag teaches a method comprising:  
monitoring feedback from a user to whether the multimedia objects are relevant to a keyword in a search query (col. 6, lines 53-55); and annotating the multimedia objects based on the user's feedback (col. 9, lines 35-4). Morag does not explicitly teach iteratively retrieving multimedia objects from a database. However, Tada

Art Unit: 2172

teaches, "setting the new retrieval conditions by use information other than the displayed images, and by executing re-retrieval" (col. 10, lines 21-23). Since the claim is not explicit, therefore, the re-retrieval would be able to read into the claim. Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to combine the teaching of Tada and Morag because utilizing the re-retrieval process would allow other results to be retrieved when the first one does not retrieve the right one.

Regarding on claim 11, Tada teaches the retrieving comprises using content-based information retrieval to retrieve the multimedia objects (col. 4, lines 60-65).

Regarding on claim 13, Morag teaches the monitoring comprises monitoring both feature-based relevance feedback and semantic-based relevance feedback (col. 9, lines 35-40).

Regarding on claim 14, Morag teaches the annotating is hidden from the user (col. 9, lines 35-40).

Regarding on claim 15, Morag teaches the annotating comprises:

in an event that a particular multimedia object is deemed relevant by the user and is not yet annotated with the keyword, adding the keyword to the particular multimedia object (col. 9, lines 35-40); and

Art Unit: 2172

in an event that the particular multimedia object is deemed relevant by the user and is already annotated with the keyword, weakening an association between the keyword and the particular multimedia object (col. 9, lines 35-40)

Regarding on claim 16, Morag teaches the annotating comprises:

In an event that a particular multimedia object is deemed irrelevant by the user and is already annotated with the keyword, weakening an association between the keyword and the particular multimedia object (col. 4, lines 48-52).

Regarding on claim 32, Morag teaches a system comprising:

relevance feedback unit to capture a user's feedback as to whether the multimedia objects are relevant to the search query (col. 6, lines 53-55); and an annotation unit to annotate the multimedia objects based on the user's feedback (col. 9, lines 35-40).

Morag does not explicitly teach an information retrieval unit to retrieve multimedia objects from a database based on a search query. Tada teaches, "images retrieved by a retrieval keyword are displayed in the form of a rectangular parallelepiped for each relevant item. That is, when an image and a keyword related to an item are newly designated, images related to the keyword are automatically fetch from the data storing means 4" (col. 10, lines 9-14). This teaches the images are retrieved by keywords. Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to combine the teaching Tada and Morag because utilizing the keywords to search for the multi media objects would allow the images to be retrieved.

Regarding on claim 33, Tada teaches the search query comprises a keyword-based search query having one or more keywords (col. 10, lines 9-14).

Regarding on claim 34, Tada teaches the search query comprises a content-based search query having one or more content features (col. 10, lines 9-14).



Art Unit: 2172

Regarding on claim 35, Tada teaches the information retrieval unit employs both content-based information and semantic based information retrieval (col. 10, lines 9-14).

Regarding on claim 36, Tada teaches the information retrieval unit comprises:

A query handler to handle both keyword-based queries having one or more search keywords and content-based queries having one or more content features of a multimedia object (col. 10, lines 9-14); and

A feature and semantic matcher to identify at least one of (1) first multimedia object having keywords that match the search keywords from a keyword-based query, and (2) second multimedia objects having content features similar to the content features of a content-based query (col. 10, lines 9-14).

Regarding on claim 37, Morag teaches the relevance feedback unit employs both feature-based relevance feedback and semantic-based relevance feedback (col. 9, lines 35-40).

Regarding on claim 38, Morag teaches the search query comprise a keyword-based search query having at least one keyword; and in an event that a particular multimedia object is deemed relevant by the user and is not yet annotated with keyword, the annotation units adds the keyword to the particular multimedia object (col. 9, lines 35-40).

Art Unit: 2172

Regarding on claim 39, Morag teaches the search query comprises a keyword-based search query having at least one keyword; and in an event that a particular multimedia object is deemed relevant by the user and is already annotated with the keyword, the annotation unit strengthens an association between the keyword and the particular multimedia object (col. 9, lines 35-40).

Regarding on claim 40, Morag teaches the search query comprises a keyword-based search query having at least one keyword; and in an event that a particular multimedia object is deemed irrelevant by the user and is already annotated with the keyword, weakening an association between the keyword and the particular multimedia object (col. 9, lines 35-40).

Regarding on claim 41, Morag teaches the search query comprises a keyword-based search query having at least one keyword; and in an event that a particular multimedia object is deemed irrelevant by the user and is already annotated with the keyword, removing the keyword from the particular multimedia object (col. 9, lines 35-40).

Regarding on claim 42, Morag teaches the relevance feedback unit comprises a feedback analyzer to train the system based on the user's feedback (col. 9, lines 35-40).

4. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morag (US. Patent No. 6,324,545) in view of Tada et al. (US. Patent No. 5,572,728) and further in view of Barber et al. (US. Patent No. 5,579,471).

Regarding on claim 12, Both Tada and Morag do not explicitly teach the retrieving comprises using both content-based information retrieval and semantic-based information retrieval to retrieve the multimedia objects. However, Barber teaches, "a computer display interface for constructing an image query used to access images in a database based on content includes a first selection window for specifying image color and including a plurality of color thumbnails, a third selection window for specifying image shapes...a fourth selection window including a plurality of category thumbnails which may denote keywords, text, or conditions on alpha-numeric data associated with an image" (col. 3, lines 23-33). This teaches the searching method utilizing both keywords and feature. Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to combine the teaching of Barber and Tada and Morag because utilizing both keyword and feature would allow the user to conduct a search more specific and retrieve the results as requested.

5. Claims 2-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morag (US. Patent No. 6,324,545) in view of Tada et al. (US. Patent No. 5,572,728) and further in view of De Bonet (US. Patent No. 5,899,999).

Regarding on claim 2, Morag and Tada teaches maintaining associations between the keywords and the multimedia objects, the associations being weighted to indicate how relevant the keywords are to the multimedia objects except for adjusting the weights of the associations based on the user's feedback. De Bonet teaches, "to retrieve an image, the system compares the vector for the test image, modified by the weights provided by the user, to the vector for each image in the database" (col. 4, lines 38-41). This teaches adjusting the weight. Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to combine the teaching Morag and Tada and De Bonet because adjusting the weight to the images based on the user would allow the images to be more relevant to the keywords.

Regarding on claim 3, De Bonet teaches the adjusting comprises increasing a weight of an association between the keyword and a particular multimedia object that is deemed relevant by the user (col. 4, lines 38-41).

Regarding on claim 4, De Bonet teaches the adjusting comprises decreasing a weight of an association between the keyword and a particular multimedia object that is deemed irrelevant by the user (col. 4, lines 34-41).

Regarding on claim 5, De Bonet teaches removing the keyword from the particular multimedia object in an event that the weight is less than a threshold value (col. 4, lines 48-52).

6. Claims 18-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lang et al. (US. Patent No. 6,314,420) in view of Morag (US. Patent No. 6,324,545).

Regarding on claims 18 and 24, Lang teaches method comprising:  
retrieving multimedia objects according to a content-based retrieval process;  
presenting the multimedia object to a user;  
monitoring feedback from the user as to which of the multimedia objects are relevant; and

Lang does not explicitly teach annotating one or more of the multimedia objects based on the user's feedback. However, Morag teaches, "a user enters an annotation into a camera while acquiring the image. This annotation may be a text annotation or it may be a voice annotation (col. 9, lines 35-38). This teaches the annotation of the image. Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to combine the teaching of Morag and Lang because utilizing the comments on the images would allow images to be retrieved by other keywords that are assign by other users.

Regarding on claim 19, Morag teaches the monitoring comprises monitoring both feature-based relevance feedback and semantic-based relevance feedback (col. 9, lines 35-40).

Regarding on claim 20, Morag teaches the annotating is hidden from the user (col. 9, lines 35-40).

Regarding on claim 21, Morag teaches the annotating comprise:

in an event that a particular multimedia object is deemed relevant by the user and not yet annotated with the keyword, adding the keyword to the particular multimedia object (col. 9, lines 35-40); and

in an event that the particular multimedia object is deemed relevant by the user and is already annotated with the keyword, strengthening an association between the keyword and the particular object (col. 9, lines 35-40).

Regarding on claim 22, Morag teaches the annotating comprises:

In an event that a particular multimedia object is deemed irrelevant by the user and is already annotated with the keyword, weakening an association between the keyword and the particular multimedia object (col. 9, lines 35-40).

Regarding on claim 23, Morag teaches the annotating comprises:

In an event that a particular multimedia object is deemed irrelevant by the user and is already annotated with the keyword, removing the keyword from the particular multimedia object (col. 9, lines 35-40).

Art Unit: 2172

7. Claims 25-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over De Bonet (US. Patent No. 5,899,999) in view of Morag (US. Patent No. 6,324,545).

Regarding on claims 25 and 31, De Bonet teaches a method comprising:

maintaining association between keywords and multimedia objects, the associations being weight to indicate how relevant the keywords are to the multimedia objects (col. 8, lines 53-67); and

retrieving a set of one or more multimedia objects for presentation to a user (col. 24, lines 35-40).

adjusting the weights of the associations based on the user's feedback (col. 4, lines 53-57).

De Bonet does not explicitly teach monitoring feedback from the user as to which of the multimedia objects are relevant. However, Morag teaches, "the album may be generated based on the thumbnail images, and the customer may comment on these images, during the upload of the complete image set" (col. 6, lines 52-55). This teaches the feedbacks are given from the user. Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to combine the teaching of De Bonet and Morag because inputting user to comments for the image would allow the images to be retrieved with other keywords.

Regarding on claim 26, De Bonet teaches the retrieving comprises using content-based information retrieval to retrieve the multimedia objects (col. 24, lines 25-26).



Regarding on claim 27, De Bonet teaches the retrieving comprises using content-based information retrieval and semantic-based information retrieval to retrieve the multimedia objects (col. 24, lines 35-40).

Regarding on claim 28, Morag teaches the monitoring comprises capturing both feature-based relevance feedback and semantic-based relevance feedback (col. 6, lines 52-55).

Regarding on claim 29, De Bonet teaches the adjusting comprises increasing the weights of the association between the keywords and the multimedia objects that are deemed relevant by the user (col. 4, lines 53-57).

Regarding on claim 30, De Bonet teaches adjusting comprises decreasing the weights of the association between the keywords and the multimedia objects that are deemed irrelevant by the user (col. 4, lines 53-57).

**Contact Information**

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Baoquoc N. To whose telephone number is (703) 305-1949 or via e-mail BaoquocN.To@uspto.gov. The examiner can normally be reached on Monday-Friday: 8:00 AM – 4:30 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y. Vu can be reached at (703) 305-4393.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks  
Washington, D.C. 20231.


The fax numbers for the organization where this application or proceeding is assigned are as follow:

- (703) 746-7238 [After Final Communication]
- (703) 746-7239 [Official Communication]
- (703) 746-7240 [Non-Official Communication]

Hand-delivered responses should be brought to:

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2121 Crystal Drive  
Arlington, VA 22202  
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Baoquoc N. To  
April 16, 2003

  
JEAN M. CORRIELUS  
PRIMARY EXAMINER